

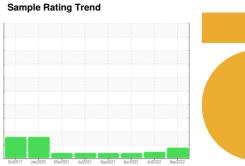
OIL ANALYSIS REPORT



CATERPILLAR 775E HAUL TRUCK 6519 (S/N BEC00081)

Steering Component

TULCO LUBSOIL SUPER HYDRAULIC HZ 46 (--- GAL)





Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 6 microns in size) present in the fluid.

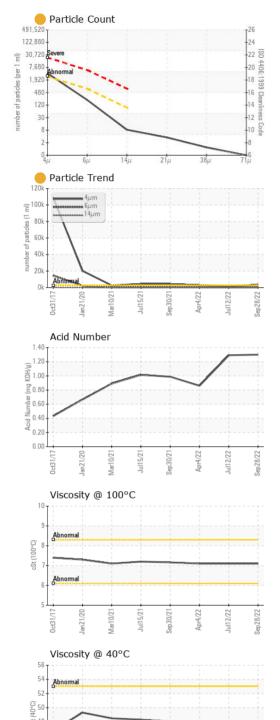
Fluid Condition

The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		TO60000269	TO10001359	TO1000092
Sample Date		Client Info		28 Sep 2022	12 Jul 2022	04 Apr 2022
Machine Age	hrs	Client Info		31274	30813	30242
Oil Age	hrs	Client Info		2032	1571	1005
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ATTENTION	NORMAL	ATTENTION
CONTAMINATION	V	method	limit/base	current	history1	history2
Water		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>60	3	3	3
Chromium	ppm	ASTM D5185m	>12	0	0	0
Nickel	ppm	ASTM D5185m	>6	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>4	<1	0	0
Lead	ppm	ASTM D5185m	>12	0	0	0
Copper	ppm	ASTM D5185m	>30	<1	<1	<1
Tin	ppm	ASTM D5185m		0	0	0
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
	ppm	method ASTM D5185m	limit/base	current 0	history1	history2
ADDITIVES Boron Barium	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	0	<1	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	0	<1 0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 <1	<1 0 0	0 0 2
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 <1 <1	<1 0 0 0	0 0 2 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 <1 <1 91	<1 0 0 0 0 113	0 0 2 0 189
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 <1 <1 91 116	<1 0 0 0 113 139	0 0 2 0 189 178
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 <1 <1 91 116 967	<1 0 0 0 113 139 937	0 0 2 0 189 178 778
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 <1 <1 91 116 967 1261	<1 0 0 0 113 139 937 1266	0 0 2 0 189 178 778 971 2857
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m		0 0 <1 <1 91 116 967 1261 4271	<1 0 0 0 113 139 937 1266 4129	0 0 2 0 189 178 778 971 2857
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	0 0 <1 <1 91 116 967 1261 4271 current	<1 0 0 0 113 139 937 1266 4129 history1	0 0 2 0 189 178 778 971 2857
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >10	0 0 <1 <1 91 116 967 1261 4271 current	<1 0 0 0 113 139 937 1266 4129 history1	0 0 2 0 189 178 778 971 2857 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >10	0 0 <1 <1 91 116 967 1261 4271 current 1 4	<1 0 0 0 113 139 937 1266 4129 history1 1	0 0 2 0 189 178 778 971 2857 history2 <1 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >10 >20	0 0 <1 <1 91 116 967 1261 4271 current 1 4	<1 0 0 0 113 139 937 1266 4129 history1 1 3 0	0 0 2 0 189 178 778 971 2857 history2 <1 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >10 >20 limit/base >2500	0 0 <1 <1 91 116 967 1261 4271 current 1 4 0	<1 0 0 0 113 139 937 1266 4129 history1 1 3 0	0 0 2 0 189 178 778 971 2857 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >10 >20 limit/base >2500	0 0 <1 <1 <1 91 116 967 1261 4271 current 1 4 0 current 3584	<1 0 0 0 113 139 937 1266 4129 history1 1 3 0 history1 980	0 0 2 0 189 178 778 971 2857 history2 <1 3 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m	limit/base >10 >20 limit/base >2500 >640 >80	0 0 <1 <1 <1 91 116 967 1261 4271 current 1 4 0 current 3584 187	<1 0 0 0 113 139 937 1266 4129 history1 1 3 0 history1 980 133	0 0 2 0 189 178 778 971 2857 history2 <1 3 0 history2 2979 326
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium PtulD CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D7647 ASTM D7647	limit/base >10 >20 limit/base >2500 >640 >80	0 0 <1 <1 <1 91 116 967 1261 4271 current 1 4 0 current 3584 187 7	<1 0 0 0 113 139 937 1266 4129 history1 1 3 0 history1 980 133 7	0 0 2 0 189 178 778 971 2857 history2 <1 3 0 history2 2979 326 22
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Ptuld CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m METHOD ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	limit/base >10 >20 limit/base >2500 >640 >80 >20 >4	0 0	<1 0 0 0 113 139 937 1266 4129 history1 1 3 0 history1 980 133 7 2	0 2 0 189 178 778 971 2857 history2 <1 3 0 history2 2979 326 22 8



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FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		1.30	1.29	0.86
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual		NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		46.6	47.1	47.2
Visc @ 100°C	cSt	ASTM D445		7.1	7.1	7.1
Viscosity Index (VI)	Scale	ASTM D2270		110	108	108
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color				mt29		
Bottom						



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Certificate 12367

Laboratory Sample No.

Lab Number : 05659647 Unique Number : 10164216

: TO60000269

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received

: 06 Oct 2022 **Tested** : 07 Oct 2022 Diagnosed

: 08 Oct 2022 - Don Baldridge Test Package : MOB 2 (Additional Tests: KV100, PrtCount, VI)

TULSA ROCK QUARRY, 66TH ST N 145TH AVENUE TULSA, OK US 74137 Contact: MIKE SNYDER

ANCHOR STONE TULSA ROCK

msnyder@anchorstoneco.com

To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: MIKE SNYDER - ANCTUL

T: (417)850-9635